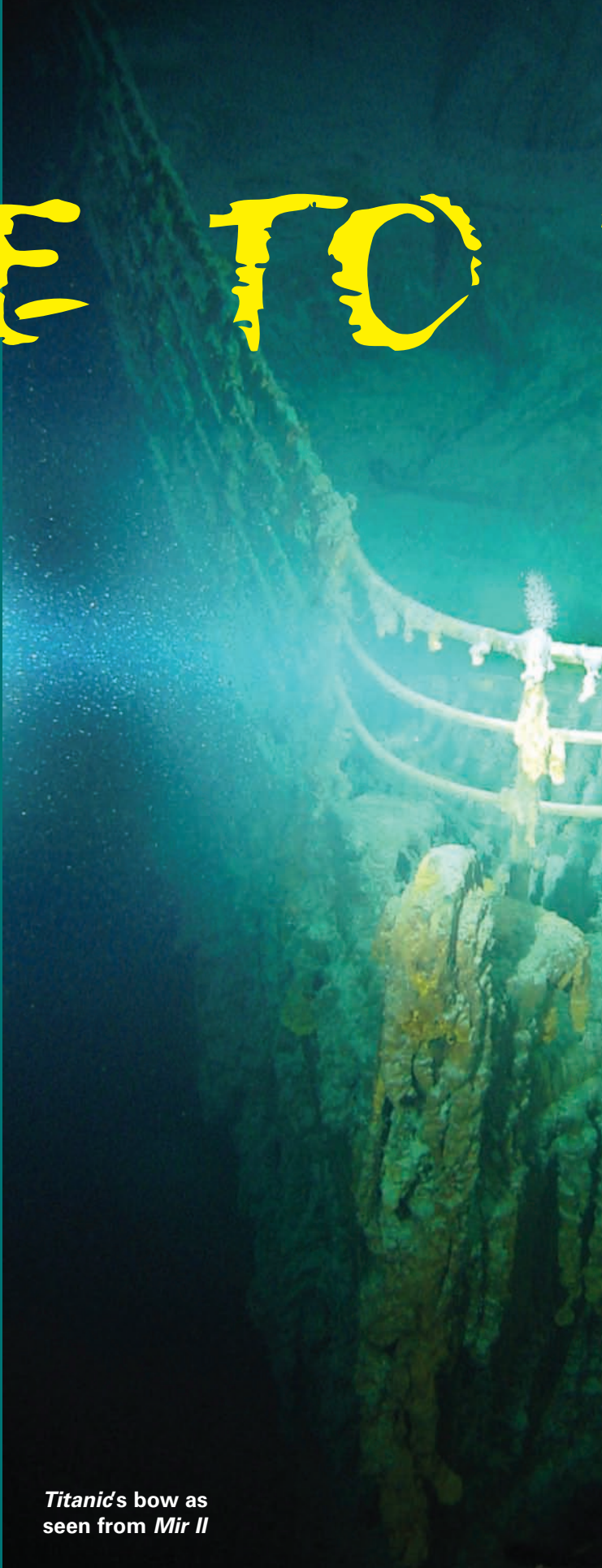


A DIVE TO

Only a handful of craft can transport people to the deepest ocean realms, and I, as a maritime archaeologist, have been fortunate enough to dive in several of these deep submergence vehicles, also known as submersibles. My most exciting dive was to the wreck of the Titanic, which lies two and a half miles beneath the surface. The grand ocean liner sank in the early morning of April 15, 1912, after striking an iceberg, with a loss of more than 1,500 lives.

In the fall of 2001, I was invited to take part in a Titanic expedition headed by James Cameron, director of the 1997 film *Titanic*. The goal of the expedition was to film the vessel's remains using deep submersibles on which were mounted powerful lights and a unique high-definition 3D video camera. Cameron then produced a 3D IMAX documentary film, *Ghosts of the Abyss*.

An underwater photograph showing the bow of the Titanic wreck. The ship's structure is visible in the distance, illuminated by bright lights, with a rocky seabed in the foreground.

Titanic's bow as seen from Mir II

BY JOHN D. BROADWATER

THE TITANIC



It's early morning on September 10, 2001, and I am aboard the 122-foot-long Russian research vessel *Akademik Mstislav Keldysh*. It is equipped with two submersibles, *Mir I* and *Mir II*, both capable of descending 20,000 feet. The *Mirs* are 26 feet long, weigh more than 18 tons, and can carry three people—a pilot and two scientists or observers. I am participating in this expedition as a representative of the National Oceanic and Atmospheric Administration (NOAA). Today, *Titanic* historian Charlie Pellegrino and I will be making our first dive to the wreck of the *Titanic*. We grab a quick breakfast and head to the pre-dive briefing. The ship's scientific director welcomes us and turns the meeting over to James Cameron. He explains that today *Mir II*, in which I'll be riding, will shine powerful lights on the wreck while he films from *Mir I*, operating a special 3D high-definition video camera. Charlie and I are then handed blue, fire-resistant coveralls that must be worn in the sub.

A TIGHT SQUEEZE

We meet our pilot, Viktor Nischeta, who, like most of *Keldysh's* crew, is Russian and speaks almost no English. Charlie and I follow Viktor up a ladder at the side of *Mir II* to an open hatch in the top. We take off our shoes, hand them to a crewman, and enter the sphere. The interior diameter is less than seven feet, and most of the space is taken up by equipment, so it's impossible to stand up. In fact,

An ad telling first-class passengers on the *Titanic* that they have Vinolia Otto soap in their cabins.



as I lower myself through the hatch I begin to feel a bit nervous, since I've always had



Slowly does it, and *Mir II* lifts up over the side of *Keldysh*.

a fear of tight spaces. Inside are two low, padded benches separated by a small seat from which Viktor will pilot the sub. There is a tiny viewport in front of each bench and a slightly larger one in the center for the pilot. In order to look through the port, I have to lie on the bench.

The hatch clangs shut, and we are locked inside. The tiny compartment is bathed in soft light. The sub's instruments emit strange hums, whirrs, and beeps. Lights flash. Then *Mir II* begins to shudder as its crane lifts us over the side and down into the cold north Atlantic. Water sloshes against the viewports.

As we slip beneath the choppy waves, the sub's

motion settles, and it feels as if we're suspended just beneath the surface. Small bubbles rise past my viewport and the pale blue-green water begins to darken. There is absolutely no feeling of motion—we are free-falling toward the seabed at about 100 feet per minute, which means it will take us about two hours to reach *Titanic*.

WOW! IT'S DARK!

As we pass through 600 feet, virtually all sunlight has been filtered out and, except for *Mir's* lights, we are in darkness. About 20 minutes into the dive, as I stare into the blackness, I begin to see tiny, blue-green flashes of light. Charlie says we are passing through the deep scattering layer, a zone where countless varieties of bioluminescent sea creatures blink like fireflies. We watch the flashes increase in number, intensity, and diversity until, by the time we reach a depth of 1,200 feet, we are drifting through a Milky Way of twinkling, darting creatures.

Nearly two hours into our dive, we get our first look at the ocean bottom. Viktor points through his viewport and says, "*Titanic*." At first, all I see is a shadowy shape; then, as we motor closer, I see jagged metal, rivets, and portholes. We drop over the edge of the stern and the hull looms above us, dark and



Just inches to go before *Mir II* touches the water and then begins its descent to the *Titanic*, some 12,000 feet below the surface.

threatening. Viktor works the controls, gently nudging the sub beneath the hull until one of *Titanic's* huge propellers appears directly in front of us. I'm still taking photos when a hydrophone message tells us that filming is complete and we should make our way to the bow.

As we make our way between the two main hull sections, we pass over hundreds of objects scattered over the bottom. There are cabin furnishings, parts from the hull, and even personal items such as leather shoes, articles of clothing, and suitcases. There are no human remains because the deep ocean has absorbed the bones of any bodies that settled in or near the wreck.

JUST LIKE IN THE MOVIE

Seeing the bow for the first time is like watching the *Titanic* movie. The railing is nearly intact, and I can't help but visualize Leo and Kate's famous "king of the world" scene. The bow is draped with "rusticles," long strands of corrosion products that look like bumpy icicles glowing rusty-red in *Mir's* lights. *Mir I* is above us, filming, as we slowly move along the bow. We get a close look at the forward lookout post, where the fatal iceberg was first sighted. As we near a large rectangular hole in the deck, Viktor gently lowers the sub onto *Titanic's* deck,

reaches into a storage compartment, and withdraws three sandwiches. Charlie says, "This is a special event, John. We are having lunch next to *Titanic's* Grand Staircase!"

After lunch, we experience one of the inconveniences of deep submersible diving: relieving our bladders using a plastic jug! (Fortunately, that's



A researcher inside *Mir II*, just before it enters the water.



all we had to do!) That accomplished, we explore around the wreck a while longer before beginning the two-hour ascent to the waiting *Keldysh*. The sun has set by the time the hatch is opened—more than 10 hours since we began our once-in-a-lifetime journey into history.

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This cup was a normal size Styrofoam drinking cup until it traveled

down to the *Titanic* on the outside of *Mir II*, where it was subjected to the full pressure of nearly 3 tons on every square inch! At such pressures, all the air is squeezed out of the Styrofoam cells.

